BEFORE THE

OCCUPATIONAL SAFETY AND HEALTH APPEALS BOARD

DEPARTMENT OF INDUSTRIAL RELATIONS

STATE OF CALIFORNIA

In the Matter of the Appeal of: **BEPEX CORPORATION** 150 Todd Road Santa Rosa, CA 95402 Employer	DOCKET 96-R1D5-1956 **DECISION**

Background and Jurisdictional Information

Employer is a manufacturer and fabricator of equipment and systems whose employees perform welding operations on equipment and materials. On May 3, 1996, and May 8, 1996, the Division of Occupational Safety and Health (the Division), through Don Cavales, Associate Industrial Hygienist, conducted an agency referred inspection at a place of employment maintained by Employer at 150 Todd Road, Santa Rosa, California (the site). On June 7, 1996, the Division cited Employer for the following alleged violations of the occupational safety and health standards and orders found in Title 8, California Code of Regulations:[1]

Cit/Item	Section	Type	Penalty
1/1	4853(d) [Inert gas metal arc welding protection]	General	$185
1/2	5144(d))4) [Respirator storage]	General	$125

Employer filed timely appeals contesting the existence of each alleged violation and the reasonableness of each proposed civil penalty.

This matter came on regularly for hearing before Bref French, Administrative Law Judge for the California Occupational Safety and Health Appeals Board, at Santa Rosa, California, on March 4, l997, at 1 p.m.

[1] Unless otherwise specified, all references are to Sections of Title 8, California Code of Regulations.

Employer was represented by William T. Burke, Director of Information Services and Safety Manager. The Division of Occupational Safety and Health (the Division) was represented by A. Margaret Cloudt, Staff Counsel. Oral and documentary evidence was introduced by the parties and the matter was submitted on March 4, 1997.

Law and Motion

At the hearing Employer moved to withdraw its appeal to the reasonableness of the proposed civil penalties. Good cause having been established, the motion was granted.

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Citation 1, General, § 4853(d)

Summary of Evidence

Inert gas metal arc welding on stainless steel

Employer was cited by the Division for failing to provide local exhaust ventilation or supplied air respirators to protect employees during inert gas metal arc welding operations on stainless steel.

Don Cavales, an industrial hygienist and the inspecting officer for the Division, testified that he conducted an inspection at the site. During an opening conference, William Burke, who identified himself as Employer's Director of Information Services and Safety Director, agreed to schedule an air sampling by the Division of welding fumes from stainless steel welding operations to be conducted on May 8, 1996. Mr. Cavales asked for the Material Safety Data Sheet (MSDS) for the welding operations on stainless steel. On May 8, 1996, Mr. Burke provided a MSDS for the stainless steel base metal welding rods from Esco Corporation (Exhibit 3) that indicated the rods contained up to 30% chromium metal by weight and up to 99.5% nickel by weight.

In addition, he provided three MSDS's for the welding wire or rods that he indicated would be used during the welding operations on May 8th. Exhibit 4 is a MSDS for the welding products manufactured or provided by McKay Welding Products. Mr. Burke indicated that this was one of the welding rods that Employer uses. The MSDS states at Table 11 that the rods have a stainless steel component with 19.5% to 19.7% chromium and 9.5% nickel. (Table 11: McKAY IN-FLUX T1 AND T1-XHP STAINLESS STEEL FLUX CORED GAS SHIELDED WELDING WIRES to AWS A5.22 specification for Flux-Cored Corrosion-Resisting Chromium and Chromium-Nickel Steel Electrodes with CO_2 for 75/25 Argon CO_2 Shielding.) Mr. Cavales explained

that "argon shielding" requires the use of an inert gas, argon, to protect the point of welding operation. CO_2, carbon dioxide, is also an inert gas.

Exhibit 5, provided by Mr. Burke, is an MSDS for the welding rod manufactured by Stoody Company for Stoody 308 and 308L that contain 10% to 35% chromium by weight and up to 25% nickel by weight. As stated on Exhibit 5, the Stoody 308 and 308L products are chromium and chromium-nickel steel composite metal cored welding electrodes for a shielded metal arc or submerged arc welding. Exhibit 6, provided by Mr. Burke, is an MSDS for the welding rod manufactured by Stoody Company for Stoody 308-16 and 308L-16 that contains 5% to 30% chromium by weight and up to 20% nickel by weight. Stoody 308-16 and 308L-16 are covered corrosion-resisting chromium and chromium-nickel steel welding electrodes.

Mr. Burke stated that most of Employer's welders use 308 and that 308-16 or 308L-16 would be used by the welders on May 8th. On cross examination, Mr. Cavales stated that Mr. Burke only provided the MSDS's and did not indicate what materials the welders would be using during the welding and air monitoring. He testified that Mr. Burke told him that both stainless steel and the wire rods contain chromium.

During the May 8th inspection, Mr. Cavales saw the welding operators in the fabrication shop welding where there was no localized ventilation system nor were they wearing any supplied air respirators. He observed an electric arc and four operators welding on stainless steel that Mr. Burke described as a "308 type TIG operation", which he explained, was a type of welding operation using Tungsten and an inert gas, argon. Mr. Cavales saw compressed gas cylinders marked "argon."

In the area where the four operators were welding, Mr. Cavales saw a "hog filter" located towards the ceiling. One hog was "probably 10 ft." directly above an operators work station and the other operators were 15 to 20 ft. diagonally away from it. He did not consider this to be a "local exhaust ventilation system" because it did not meet the definitional requirements in § 5140.[2] It was not "localized" because it was too far away from the dust or metal fume emissions and did not draw air or direct the fumes away from the breathing zone of the operators. He opined that the hood of the hog filter should have been "at least 6 inches, or as little as possible but no more than 6 inches" away from the point of emission of the welding fumes.

The Division's inspector cited Employer for a violation of § 4853(d) because the employees were welding on stainless steel with an inert gas (argon) in a metal arc welding operation without any precautions to protect themselves from the fumes generated by the welding operations, to wit, a

[2]§ 5140 defines a local exhaust system as "a mechanical ventilation system in which a hood is located at or near the point of release of dusts, fumes, mists, vapors or gases."

localized exhaust system or air line respirator. A "metal arc welding" operation is the fusing of two metals by electric arc using an inert gas. There was no submerged arc welding going on at the site.

Mr. Cavales testified that chromium and nickel are human carcinogens but he did not know if they were listed in Title 8. According to a HESIS health alert, hexavalent chromium causes lung cancer. The test results from EMS Laboratories (identified as Exhibit 8) from the May 8th air monitoring reveal levels of nickel and trivalent chromium in the personal air sample taken from several welders.

One welder, who stated that he was doing TIG welding on stainless steel using 308 filler metal and argon, had levels of .0006 milligrams of chromium and .0007 levels of nickel. Mr. Cavales observed him using continuous feed electric welding equipment and argon gas from an argon gas cylinder. On cross examination, he stated that the welder did not tell him what process he was using to do the welding. Mr. Cavales did not know whether or not TIG welding was different from MIG welding and did not observe any of the welders chipping any slag off of any material. Mr. Cavales observed another welder using a continuous wire feed machine, who stated that he was welding on a stainless steel metal rotor using a TA 304 filler metal. He had levels of .0166 trivalent chromium and .0128 nickel in his air sample.

Mr. Cavales also monitored for hexavalent chromium and all of the welders were below the Permissible Exposure Limit (PEL), or detection limit of the equipment, for hexavalent chromium. One welder had .12 micrograms of hexavalent chromium in his air sample, which is reflected in the lab results in Exhibit 9. Although chromium and nickel were detected in the air samples, § 4853(d) does not require that substances exceed the PEL for that ingredient to cite an employer if the substances were detected at some level. Levels in excess of the PEL determine if the violation should be classified as serious. Employer's air level monitoring for 1992 and May 14, 1996, showed levels of chromium which indicate chromium is one of the gases involved in its welding operations.

Mr. Cavales did not cite Employer for § 5150(a)(3) because it does not apply since chromium, which is listed in § 5150(b)(1), requires a local exhaust system and chromium is used in Employer's welding operations. He determined § 4853(d) was more specific to Employer's inert gas shielded metal arc welding operation on stainless steel.

On cross examination, Mr. Cavales stated he is aware that there are different types of welding processes, such as arc welding, submerged arc welding, plasma welding, helium arc welding. The "hogs" he observed were "smog hogs" or electronic precipitators. There were approximately ten smog hogs and four to six roof fans inside the fabrication area as well as another

ten smog hogs in the rest of the building. There was a localized exhaust ventilation system for a grinder and a portable localized ventilation unit. If a localized exhaust ventilation unit was placed too close to the welding operation while the weld was in progress "it probably would disturb the inert gas and expose the welding to oxygen and probably there would be a contamination and there won't be a good weld." Based on his experience, a localized exhaust ventilation unit 6 inches away from the inert gas during the welding operation does not disturb the inert gas.

Ronald Bowen testified for Employer that he has been a welding engineer and foreman for Employer for the last five years. He stated that there are several different types of general arc welding and Employer uses seven or eight different processes. Inert gas metal arc welding process has four different ways of transmitting the arc through the welding current or electrode. There is a globular transfer, a short circuit transfer, a spray transfer and a pulse or pulsed arc. No other process has that type of transfer. Amperage controls the various modes of transfer. On cross examination, Mr. Bowen indicated that the four types of inert gas metal arc welding use different type of welding beads, produce different types of penetrations and different positions or configurations for a particular application.

The inert gas metal arc welding process, or "MIG", uses a semi-automatic wire feeder and power supply. The operator will press a trigger and the wire will go through the welding torch and be applied to the weld. Gas shielding is required for certain processes and materials, such as spray welding on stainless steel which is a "98/2", 98% argon and 2% oxygen. The weld, when finished, is slag free and does not require any chipping off of slag. It is solid metal and the next layer of weld can be applied right over the existing weld. The gas is there to prevent contamination from the atmosphere. While the pool is solidifying, it creates a gas around the molten pool that keeps the atmosphere away from it so that there is no gas porosity or cracking in the weld..

Of all the processes that Employer uses, the MIG process is used 5% of the time. The majority of work, 80% or 90%, is done with the "flux cored arc welding process" (FCAW). Flux cored arc welding is also done with a power supply and a semi-automatic wire feeder which feeds wire through the same type of torch, but the process produces a slag which helps protect the molten pool upon solidification. The FCAW process can be used with or without gas depending upon the wire and material that is used. On cross examination, Mr. Bowen indicated that Employer uses argon gas for its flux cored welding.

According to the American Welding Society's Welding Handbook on Welding Technology (Exhibit L), the MIG and FCAW processes are "two distinct processes, but they have many similarities in application and

equipment." (Exhibit L: page 7.) The MSDS in Exhibit 4, at Table 11, references (under product type) a product that can only be used in flux cored welding, not MIG welding. In Exhibit 5, the product type referenced is not for MIG welding, but only for flux cored welding. The product type referenced in Exhibit 6 cannot be used in MIG process welding, but only in shielded metal arc welding.

In his opinion, the flux cored process done at Employer's work site does not fall under the inert gas metal arc welding (MIG) process regulated under § 4853 since MIG welding has four methods of transferring the arc and flux cored does not fall under them. It is a distinct entity. Resistance welding (§ 4852) is not a general arc welding and cutting process or inert gas metal arc welding process. Resistance welding is a process where two electrodes come together and produce an arc or spot.

Exhibit J, a site lay-out plan of Employer's building, depicts the fabrication shop and the locations (marked by red X's) where the welders were welding on May 8th. The welders could have been using any one of the welding processes, but the "most likely" type of welding would be flux cored arc welding since Employer uses that type the most and buys the most material for fluxed cored arc welding. It is "possible" that Employer would have been using the MIG process but it is "highly unlikely" since it is only used 5% of the time. On May 8th, he did not know what processes was going on at each of the thirty welder's work stations even though he tells the workers what process to use. The processes used in the fabrication shop vary and a worker could be used one process at one time and an hour later, another process.

In the fabrication shop, there are thirty-five to forty "smog hogs" on columns above the welder's stations, twelve to fourteen feet above the floor. The ceiling is in excess of thirty feet. There are roof fans through out the fabrication shop for ventilation. There are also several portable ventilation smog hog units and various fans to suck the smoke from the welder's work site. Additional welding torches, or smoke guns, are available to remove the smoke at the welding arc. Mr. Bowen turned on the smog hogs and roof fans on May 8th.

William Burke testified for Employer that as Employer's Director of Information Services and its Safety Manager, he was aware that on May 8, 1996, Mr. Cavales would be taking air samples to monitor for possible contaminants in the welding fumes from the welding of stainless steel components. Employer does not use the MIG welding process, which § 4853 regulates, but rather the flux cored arc welding process which falls under § 4851, arc welding and cutting, which has no requirements for local exhaust ventilation systems of supplied air respirators.

Mr. Burke identified Exhibit K as Employer's air sampling test results. In 1993, the total welding fume PEL of 5.0 was only exceeded in a couple of instances. The levels of chromium and nickel were not exceeded. After that additional mechanical devices, smog hogs, were installed to more effectively clean the air. The May 8, 1996, Cal/OSHA testing (recorded at page 2) indicates that none of the individual constituents exceeded the PEL. Employer's May 14, 1996, testing shows that none of the individual constituents or the total welding fume was exceeded. Employer's tests were conducted outside the welder's helmet as close as possible to the employee's immediate breathing zone.

Exhibit I is a photograph of the ventilation devices. I-1 depicts the roof ventilation fans. I-2 depicts the smog hog electronic precipitator. I-3 is a portable smog hog which can be used as local exhaust ventilation.

Mr. Burke stated Employer's contention that § 5150(a)(3) is more applicable to Employer's welding process than § 4853. § 5150(b) applies only to enclosed spaces and Employer's work site is not an enclosed space. Exhibit A, a HESIS Hazard Alert, describes how to control chromium exposure and at page 3, provides a guideline for when ventilation and air respirators are required which depends on whether work is being done indoor, outdoor or in an enclosed space. Employer's welding operations are conducted in the fabrication shop, which has close to one million cubic feet of air, under conditions that are similar to the outdoor ventilation conditions described in Exhibit A. Employer's welding operations comply with the five criteria for "natural ventilation" specified in the AWS Welding Handbook (Exhibit B) which are similar to the requirements for "outdoor" stainless steel welding or cutting referenced in Exhibit A.

Although Employer is not required to have a respiratory program under § 5150 since none of the PEL's are exceeded, it has an effective respirator program with annual air quality monitoring and medical testing along with refit testing of employee respirators. Employer has a Respiratory Protection and training program which has been in effect for fifteen years. Employer's safety managers review and keep the MSDS's for the raw material, which are available to all employees.

Employer relies on information provided in the MSDS's for the products it uses to develop, monitor and maintain its safety programs. McKay Welding Products states in its MSDS (Exhibit C) that the chromium and nickel compounds in its product have not been found in welding fumes. McKay Welding Products also asserts in a Safety and Health Bulletin (Exhibit D) that "the available evidence shows that the forms of nickel and chromium present in welding fumes are not carcinogens." A 1996 McKay Products MSDS (Exhibit E) similarly states that chromium and nickel compounds in its product have not been found in welding fumes. The constituents list from Vesta Welding Products (Exhibit E) for its product does not list chromium or

nickel as released in welding fumes. (Exhibit F) And in Exhibit G, an MSDS from Sandvik Steel, chromium and nickel are not listed as constituents "likely to be present" in welding fumes from its products.

Findings and Reasons for Decision

Employer was engaged in inert gas metal arc welding on stainless steel. Employer's employees were exposed to potentially hazardous welding fumes since Employer did not utilize local exhaust ventilation or require its employees to use supplied air respirators during welding operations on stainless steel. A violation of § 4853(d) is established.

Since the $185 proposed civil penalty was not raised as an issue on appeal, $185 is assessed against Employer for the violation.

Employer was cited under § 4853(d) which reads as follows:

> "(d) Inert-gas metal-arc welding on stainless steel shall not be performed unless exposed employees are protected either by local exhaust ventilation or by wearing supplied air respirators."

The narrow issue presented at the onset is whether or not Employer's employees were engaged in inert gas metal arc welding on stainless steel. In Appeals Board proceedings, the Division has the burden of proving a violation, including establishing applicability of the safety order, by a preponderance of the evidence (***Howard J. White, Inc.***, OSHAB 78-741, Decision After Reconsideration (June 16, 1983)) since Appeals Board hearings are civil in nature. (***Lee Bolin & Associates***, OSHAB 80-720, Decision After Reconsideration (July 29, 1981).) Therefore, to establish a violation of § 4853(d), it was incumbent upon the Division to prove by a preponderance of the evidence that an exposed employee was performing inert gas metal arc welding on stainless steel and that s/he was not protected by either local exhaust ventilation or by wearing a supplied air respirator.

The cited safety order does not require proof, by the Division, that welding fumes contain potentially hazardous or toxic substances as a condition precedent to citing an employer for an alleged violation of § 4853(d). The Standards Board has already made that determination in proscribing the conditions under which inert gas metal arc welding on stainless steel, the hazardous activity, can be performed. (See ***Broadway Sheet Metal***, OSHAB 90-1355, Decision After Reconsideration (Nov. 25, 1992) wherein the Appeals

Board also rejected the employer's contention that § 4853(d) was unenforceably vague because it did not notify employers of the acts which it proscribed.)

It is undisputed that Employer's employees were engaged in welding operations on stainless steel on May 8, 1996. The MSDS's (Exhibits 3 through 7), submitted by Employer to the Division in advance of the air monitoring inspection, evidence the use of stainless products containing chromium and nickel in Employer's welding operations. It is also undisputed that there was no submerged arc welding or resistance welding (§ 4852) performed at the site on May 8th.

Employer contends that the four employees that Mr. Cavales observed welding in the fabrication shop were not engaged in inert gas metal arc welding. It asserts that its employees were engaged in "flux cored arc welding" which it contends falls under § 4851, arc welding and cutting. § 4851 does not requirements local exhaust ventilation or supplied air respirators during arc welding. Furthermore, Employer asserted that it was in compliance with § 5150(a)(3) and argued that § 5150(a)(3) was the safety order most applicable to its work conditions on May 8, 1996.

Inert gas metal arc welding, which Employer calls "MIG" welding, and flux cored arc welding (FCAW) are not defined under Group 11, "Electric Welding", or the definitions in § 5140, Group 16, "Control of Hazardous Substances", Article 107, Dusts, Fumes, Mists, Vapors and Gases. Mr. Cavales described "metal arc welding" in general terms "as the fusing of two metals by electric arc using an inert gas." Although he acknowledged that he was aware that there were different types of welding processes, a few of which he named, he could not describe flux cored arc welding or distinguish it from inert gas metal arc welding.

The Division sought to prove, through the hearsay information provided to Mr. Cavales during the inspection, that Employer was engaged in inert gas metal arc welding. Mr. Cavales testified that Mr. Burke told him that the four operators that he observed welding on stainless steel were using a "308 type 'TIG' operation." However, he did not know whether or not TIG welding was a type of MIG welding or flux cored arc welding. It is highly questionable whether or not there is a TIG welding process. When asked, Mr. Cavales could not describe the TIG welding process or even what TIG stood for, stating only that Mr. Burke told him it was "a type of welding operation using Tungsten and an inert gas, argon." It is more likely that, assuming this conversation took place, Mr. Burke said "MIG" and Mr. Cavales misunderstood him.

Mr. Cavales' credibility is further undermined by the fact that frequently on cross examination he would contradicted his direct testimony. On rebuttal, Mr. Cavales testified that one of the welders that he monitored

told him that he was "doing TIG welding on stainless steel using 308 filler metal and argon." But on cross examination, he stated that the welder did not tell him what process he was using to do the welding.

In another instance, Mr. Cavales testified that Mr. Burke told him "most of Employer's welders uses 308 and that 308-16 or 308L-16 would be used by the welder's on May 8th." However, on cross examination he stated that Mr. Burke did not tell him anything about the materials the welders would be using and only provided the MSDS's for the welding products. This is further evidence that Mr. Burke may never had made the statement pertaining to TIG welding that the Division sought to attribute to him.

Therefore, the Division did not establish that TIG welding was an inert gas metal arc welding process. Because Mr. Cavales' recitation of Mr. Burke's alleged statements is not reliable, none of Mr. Burke's remarks to him during the inspection can be imputed to Employer as admissions to resolve the issue of what type of welding operations were being performed on May 8th. Employer did not claim that one of its welding processes was TIG welding. Even if it had, there is no reliable evidence that TIG welding is a type of inert gas metal arc welding.

Employer contends that flux cored arc welding (FCAW) is a "distinct entity" which does not fall under any one of four methods of transferring the arc through the welding current or electrode that characterize inert gas metal arc welding. Ronald Bowen, Employer's foreman and welding engineer, outlined the four different methods of transmitting the arc. He also testified credibly that the "MIG" process uses a semi-automatic wire feeder and power supply. Gas shielding is required for certain processes and materials. The weld, when finished, is slag free and does not require any chipping off of slag.

Of all the processes that Employer uses, the MIG process is used 5% of the time. The majority of its work, 80% or 90%, is done with the flux cored arc welding process. Flux cored welding is also done with a power supply with a semi-automatic wire feeder which is fed through the same type of torch, but the process produces a slag which helps protect the molten pool upon solidification. The FCAW process can be used with or without gas depending upon the wire and material that is used. However, Mr. Bowen acknowledged on cross examination that Employer uses argon gas for its flux cored welding.

Mr. Bowen testified that on the date of the air monitoring inspection, the welders in the fabrication shop could have been using any one of the processes, but the "most likely" type of welding would have been the flux cored arc welding since Employer uses that type the most. He stated that it was "possible" that the workers could have been using the inert gas metal arc process but it was "highly unlikely" since it is only used 5% of the time. He candidly admitted, however, that on May 8th, he did not know what

process was going on at each of the welder's work stations even though he was responsible for telling the welders which process to use. He explained that the processes used in the fabrication shop vary and one could be used at one time and an hour later, another process employed. No records or other documentation was produced by Employer to show that at the work stations monitored, the welders were engaged in flux cored arc welding and not MIG welding.

It is unrefuted that during the course of conducting the air monitoring, Mr. Cavales observed "an electric arc" and "another welder using a continuous wire feed machine." These descriptions appear similar to the semi-automatic wire feeder described by Mr. Bowen, that is used for both MIG and flux cored arc welding. However, more significantly, Mr. Cavales did not observe any of the welders chipping any slag off of the material which would indicate that Employer was using a inert gas metal arc process rather than a flux cored arc process.

Thus, it can reasonably be inferred that it is more likely than not that some of the welders in the fabrication shop were engaged in inert gas metal arc welding on stainless steel at the time of the inspection.

Assuming arguendo, that workers were engaged in flux cored arc welding, there is substantial evidence in the record to support a finding that flux cored arc welding is an inert gas metal arc welding process, and, as such, flux cored arc welding on stainless steel is regulated by § 4853(d). According to the American Welding Society's Welding Handbook on Welding Technology (Exhibit L) submitted by Employer, the gas metal are welding (GMAW) and FCAW processes are "two distinct processes, but they have many similarities in application and equipment." It states further that:

> "Both processes use a continuous solid wire or tubular electrode to provide filler metal, and both use gas to shield the arc and weld metal. In GMAW, the electrode is solid, and all of the shielding gas is supplied by an external source. With FCAW, the electrode is tubular and contains core ingredients that may supply some or all of the shielding gas needed. This process may also use auxiliary gas shielding, depending on the type of electrode employed, the material being welded, and the nature of the welding involved. The shielding gases used by both processes have a dual purpose of protecting the arc and weld zones from air and providing desired arc characteristics. A variety of gases is used depending on the reactivity of the metal and the design of the joint to be welded. A variety of welding power sources is used with the two processes."

Since both processes use inert gases, either argon or carbon dioxide, to shield the arc and weld metal, the main distinction appears to be that flux

cored arc welding uses cored electrodes instead of solid electrodes. As the article notes, "the flux core may contain minerals, ferroalloys, and materials that provide shielding gases, deoxidizers, and slag forming materials," which "promote arc stability, enhance weld metal mechanical properties, and improve weld contour." (Exhibit L) Nothing in the article suggests that the flux cored process differs from gas metal arc welding in terms of the by-products generated and released in the welding fumes or that ventilation is not required for the flux cored process. It can reasonably be inferred that flux cored arc welding, when done on stainless steel, is no less injurious to workers due to the potential for exposure to welding fumes containing hazardous concentrations of toxic substances.

Therefore, standing alone, Employers evidence proves that flux cored arc welding, when done on stainless steel metal, comes within the ambit of § 4853(d). This interpretation is consistent with the California Supreme Court's directive to liberally interpret safety orders to promote a safe and healthful working environment. (***Carmona v. Division of Industrial Safety*** (1975) 13 Cal.3d 303, 313. The Appeals Board has consistently held that a safety order will not be held void for uncertainty if any reasonable and practical construction can be given its language. (See ***Duke Timber Construction Co.***, OSHAB 81-347, Decision After Reconsideration (Aug. 19, 1985).)

Furthermore, in asserting compliance with § 5150(a)(3), which pertains to an exception to the mechanical ventilation requirements for welding indoor, in an enclosed space, or in the open air, Employer recognizes the hazards inherent in operations involving toxic substances listed under § 5150(b)(1), which include chromium when used as a base metal or filler metal, and inert gas metal arc welding on stainless steel. It is undisputed that the stainless steel products in the MSDS's (Exhibits 4 through 6), which are used in Employer's flux cored welding operations, contain chromium as well as nickel.

The hazard regulated under § 5150 is the same as that regulated under § 4853(d), to wit, prevention of exposure to potentially hazardous toxic fumes or gases from welding operations. In fact, Mr. Burke, argued that its existing mechanical ventilation, delivered through smog hog electronic precipitators and roof fans (Exhibit I) strategically located in a large high ceiling building (Exhibit J), more closely resembles the requirements for removal of welding fumes during open air operations under § 5150(c). Mr. Burke also testified that Employer's managers review the MSDS's for the raw material and products it uses in its welding operations to develop, monitor and maintain its safety programs. It has an effective Respiratory Protection and training program which has been in effect for fifteen years, with annual air quality monitoring and medical testing along with re-fit testing of their respirators. Thus, it is clear from Employer's evidence that it is very cognizant of the health hazards associated with fumes and gases generated during welding

processes utilizing chromium or nickel based metal fillers used during welding on stainless steel.

Employer's contention that § 5150(a)(3) is the more specific safety order applicable to its welding processes and that it was in compliance with subsection (3) lacks merit. Employer failed to address whether or not there is a conflict between the two safety orders. Where there is no conflict between the safety order cited and another appropriate safety order and where a reasonable basis exists for application of either set, an employer cannot defend that the set not cited should apply simply because it is more appropriate or more particular. (***Northern California Anthes***, OSHAB 84-1085, Decision After Reconsideration (Dec. 31, 1986).) Having violated the requirements of both safety orders, Employer cannot argue that the citation alleging a violation of § 4853(d) was fatally defective because § 5150(a)(3) was "the better, more appropriate, more particular safety order to have cited." (***Pacific Gas and Electric Co.***, OSHAB 82-1102, Decision After Reconsideration (Dec. 24, 1986).)

Under the facts of this case (as outlined below), Employer violated § 5150(a) because it did not have a local exhaust system nor did it establish that its exhaust system, if localized and applicable to an indoor welding operation, provided a minimum air velocity of 100 lineal feet per minute in the welding zone, as required under § 5150(a). Although Employer described how it complied with the ventilation recommendations set forth by the American Welding Society in its Welding Handbook (Exhibit B), it did not establish that the aggregate effect of these conditions on air movement in the fabrication shop resulted in an air change consistent with the minimum lineal air flow of § 5150(a). Furthermore, Employer did not satisfy the requirement in § 5150(a)(3) that its "workplace monitoring records clearly demonstrate the exposure levels specified in § 5155 are not exceeded." The one 1993 test and the May 14, 1996, test results (Exhibit K) do not support a finding of a pattern of consistent monitoring over a period of time sufficient to establish that Employer's workplace monitoring records clearly demonstrate that the exposure levels were not exceeded.

With respect to the employee protection required under § 4853(d), Mr. Cavales testified credibly that one "hog filter" was located towards the ceiling, "probably 10 ft." above one of the operator's work stations and thother operators were 15 to 20 feet diagonally away from it. He opined that it was not "localized" because it was too far away from the dust or metal fume emissions and did not direct the fumes away from the breathing zone of the operators. § 5140 defines "local exhaust ventilation" as "[a] mechanical ventilation system in which a hood is located at or near the point of release of dusts, fumes, mists, vapors or gases." None of Employer's witnesses testified that any of the portable ventilation smog hog units or smoke guns that Employer provides were in use "at or near the point of release of dusts, fumes, mists, vapors or gases" during the welding operations on May 8th.

According to Mr. Bowen, the "smog hogs" were on columns above the welder's stations, 12 to 14 feet above the floor. In ***Broadway Sheet Metal***, supra, the Appeals Board rejected the employer's argument that a canopy hood, located 5 feet away from a stainless steel welding operation, was "near" the release point in compliance with § 4853(d). The Board found that the employer's ventilation device (the canopy hood) was not "local exhaust ventilation" (***Broadway Sheet Metal***, supra, emphasis in original) because it was not close enough to the welding to prevent the fumes from entering the welder's breathing zone. "The mere fact that 'near' is not quantified by some measurement does not render the safety order vague. (See ***Raisch Construction Co.***, OSHAB 89-279, Decision After Reconsideration (Nov. 21, 1990).) The Board also rejected the employer's argument that locating the hood 6 to 12 inches from the welding operation was not practicable because it might have rendered the welding ineffective by distorting the inert gas covering the hot metal of the welds. "[I]t is not a defense to the violation because alternative protection (a respirator) is permitted by the safety order." (***Broadway Sheet Metal***, supra.) Therefore, Employer's smog hogs, which were not "at or near" the point of release of the welding fumes, vapors or gases, do not meet the requirements of a local exhaust ventilation.

Since it is undisputed that none of the welders were using supplied air respirators as an alternative means of protection, a violation of § 4853(d) is established. In that the reasonableness of the amount of the proposed civil penalty was withdrawn as an issue on appeal, the $185 proposed civil penalty (Exhibit 2) is assessed against Employer.

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Citation 1, General, § 5144(d)(4)

Summary of Evidence

Respirator storage

Employer was cited by the Division for failing to ensure that its employees properly store their respirators.

Don Cavales, an industrial hygienist and the inspecting officer for the Division, testified that he looked in the tool box of one of the welders whose air space was being monitored while he welded and saw a respirator. The inside of the mask, or "face fit" , was "really dusty". The respirator was loose in the tool box and not in a bag. The tool box had grease and dust in it. By another welder, he saw a respirator hanging on the wall by a strap. He cited Employer for a violation of § 5144(d)(4).

On cross examination, he agreed that a respirator's face piece would not remain clear all day if it was used by a welder, and it could have some dirt on it. There were various items in the tool box and the respirator was on top of several tools in a drawer.

William Burke testified for Employer that after the Division's inspection, he conducted a surprise inspection of the fabrication shop but did not find any pattern of improper respirator storage. He has been the primary trainer under Employer's respirator training and protection program and has trained employees how to clean and store their respirators to keep them from being destroyed. He recommends that they "always" place the respirators in their toolbox rather than leave them on the work table where it can come in contact with the work process or general dust. Employees are given a box and the bag that the respirator comes in, along with the necessary training and equipment to clean the respirator. Storing the respirators in a sealed or closed bag is preferable. Placing the respirators in the tool box is recommended because the components that the welders work on are very large and if the welder brings his tool box with him to the unit, the respirator is available along with his other personal protective equipment.

Exhibit H depicts a wall holding several welding helmets, which items may have been mistaken for respirators since they are similar looking. He could not locate any respirator hung on any walls and Mr. Cavales did not mention seeing any respirators on the wall at the time of his inspection to the individual that was with the inspector all day.

Findings and Reasons for Decision

Employer's welders stored respirators, which were not in use, in a manner that did not protect the respirator against dust or damaging chemicals. A violation of § 5144(d)(4) is established.

Since the $125 proposed civil penalty was not raised as an issue on appeal, $125 is assessed against Employer for the violation.

Employer was cited under § 5144(d)(4) which reads as follows:

> "When not in use, respirators shall be stored to protect against dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals."

Employer does not claim that the respirators observed by Mr. Cavales were "in use" but rather suggests that at least one of the respirators, the one observed in an employee's tool box, could have become dusty or dirty through use by the employee during the course of welding activities. Employer argument is misplaced in that the gravamen of the offense is not the sanitary condition of the respirator, which is covered under § 5144(d)(3) under "routinely used respiratory equipment", but rather the mode of storage. § 5144(d)(4) was appropriately cited and a violation established through the credible testimony of Mr. Cavales, who observed a respirator lying loosely on top of some tools in a drawer of a dusty, greasy tool box. His testimony that another respirator was hanging on the wall by a strap is also credited. It was not necessary that the Division present photographic evidence of the violation to substantiate its citation, although this is helpful to augment a witness's testimony.

It should be noted that storing respirators not in use in tool boxes, for greater accessibility and mobility, might be a suitable storage method if the respirator was thereby protected from "dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals." Had the respirator in the tool box been in a closed, moisture and chemical impervious bag (where necessary), or the bag supplied by the manufacturer, and the tool box not left in locations susceptible to sunlight and temperature extremes, its storage place may not have been objectionable.

In that the reasonableness of the amount of the proposed civil penalty was withdrawn as an issue on appeal, the $125 proposed civil penalty is assessed against Employer.

DATED: March 25, 1997

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Bref French
Administrative Law Judge